

Date: Mon, 14 Feb 94 04:30:24 PST  
From: Ham-Equip Mailing List and Newsgroup <ham-equip@ucsd.edu>  
Errors-To: Ham-Equip-Errors@UCSD.Edu  
Reply-To: Ham-Equip@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Equip Digest V94 #32  
To: Ham-Equip

Ham-Equip Digest                      Mon, 14 Feb 94                      Volume 94 : Issue    32

Today's Topics:

Alinco DJ580 and car power  
Help/info about Standard C158A  
Looking for LOGIKEY keyer  
Needed: 440MHZ plug for Bird Wattmeter  
Need SW + AM?FM unit  
Packet with an HT and Newton  
Ten Tec Delta I  
TH78A any good?  
Vertical Antennas (3 msgs)  
Wanted: YK 88C 500Hz CW filter

Send Replies or notes for publication to: <Ham-Equip@UCSD.Edu>  
Send subscription requests to: <Ham-Equip-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Equip Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-equip".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 10 Feb 1994 19:58:51 GMT  
From: concert!news-feed-2.peachnet.edu!umn.edu!gaia.ucs.orst.edu!ucs.orst.edu!  
steinr@decwrl.dec.com  
Subject: Alinco DJ580 and car power  
To: ham-equip@ucsd.edu

In article <2jbo9s\$ou1@access2.digex.net> larry@access2.digex.net (Larry Rubin)  
writes:

>My Alinco DJ580 is my only piece of ham equipment and thus I do not want  
>to do anything that might destroy it. But I would like to be able to  
>hook it into the car's cigarette lighter to both save the battery and get  
>more wattage out of it. I have the necessary plug that fits into the DC  
>in socket on the side of the radio, as well as a plane-jane cigarette

Hannes Hogni Vilhjalmsson (hhv@rhi.hi.is) wrote:  
: Can anyone tell me the present address of the Logikey Company,

: or any other outlet for their LOGIKEY microprocessor based morse  
: keyer?

If I'm not mistaken, the LogiKey is the commercial version of the CMOS Super Keyer II which was first described in the November 1990 issue of QST. That keyer is available in Kit Form (i.e. parts, pcb, but no switches, boxes, or batteries) from:

Idiom Press  
Box 583  
Deerfield, IL 60015

When I bought mine (it is a WONDERFUL keyer), I paid \$45 + \$3 for domestic USA shipping. Foreign orders were \$45 + \$5.

Sorry, that's all the info I have.

73 de Sandy WA6BXH/7J1ABV   slay@netcom.com   WA6BXH@N0ARY

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Date: 11 Feb 94 23:38:44 -0500  
From: elroy.jpl.nasa.gov!usc!sol.ctr.columbia.edu!usenet.ucs.indiana.edu!  
master.cs.rose-hulman.edu!rosevc.rose-hulman.edu!pettitda@ames.arpa  
Subject: Needed: 440MHZ plug for Bird Wattmeter  
To: ham-equip@ucsd.edu

Does anyone have or know where I can get a 440 MHz plug for the Bird wattmeter?

Dave

-----  
Date: Sat, 12 Feb 1994 06:30:30 GMT  
From: mentor.cc.purdue.edu!mace.cc.purdue.edu!narla@purdue.edu  
Subject: Need SW + AM?FM unit  
To: ham-equip@ucsd.edu

[Please excuse me if I posted this to an inappropriate news group.]

I am looking for a good receiver to integrate into my system. I want a receiver that will have a good bandwidth SW PLUS AM & FM in one unit. Unlike in Asia (and probably Europe), such units are hard to find here in the USA. I have inquired at a number of stores and they don't carry them.

Any information regarding where I can find such units, approx. pricing, alternatives (I am an absolute amateur putting together my sound system for purely personal pleasure), obstacles to importing (if that's an option)

will help me greatly.

PL. E-MAIL ME. Many thanks in advance,

Gowri Narla  
narla@mace.cc.purdue.edu

-----  
Date: 9 Feb 94 20:53:54 GMT  
From: concert!news.duke.edu!jdc2@rutgers.rutgers.edu  
Subject: Packet with an HT and Newton  
To: ham-equip@ucsd.edu

I have a neat dual band radio, and a neat Apple Newton, and my thoughts go as follows: If I can run packet off my calculator (HP48SX) with a normal TNC, I should be able to find something for the Newton! Has anyone tried this? Are there any products around that can run out of the Appletalk or PCMCIA ports that are either TNCs or will allow me to use an existing TNC with Newton? I'm not sure if I could use a TNC out of the Newton appletalk (serial) port with just a cable adaptor, and even then terminal software might be a pain. If any Macintosh users have packet experience, that may be of help, too. Any advice/references/opinions/prices would be greatly appreciated.

73's! N5SKQ <-- hardest call to pronounce in the world

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J. D. Carter - jdc2@acpub.duke.edu

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Date: 9 Feb 1994 13:29:35 -0600  
From: ihnp4.ucsd.edu!sdd.hp.com!math.ohio-state.edu!cs.utexas.edu!not-for-mail@network.ucsd.edu  
Subject: Ten Tec Delta I  
To: ham-equip@ucsd.edu

Anyone know anything about this rig? Anyone have one for sale or trade?

73

Jeff, AC4HF

Date: Fri, 11 Feb 1994 22:34:11 GMT  
From: sgiblab!cs.uoregon.edu!news.uoregon.edu!netnews.nwnet.net!raven.alaska.edu!  
acad2.alaska.edu!asmsr@ames.arpa  
Subject: TH78A any good?  
To: ham-equip@ucsd.edu

I was just curious.. is the Kenwood TH78A HT any good? I've been looking through a number of magazines and catalogues and so far, it's the best I can find. Do any of you have any experience with this transceiver (140/440, 5w)?

Is there anything any of you are partial to? I'm looking for a dual-band unit with DTMF and small size (like a handheld, or even a portable). I'd also like something that can be easily recharged and is able to plug into a wall socket so I don't need to run the batteries down. Have any of you used something that fits this description (and like it)?

Any help you could give would be great... E-Mail to this account, if you can. My name is David Nesting (this account is a friend's).

Thanks again...

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Date: Thu, 10 Feb 1994 23:03:16 GMT  
From: mvb.saic.com!unogate!news.service.uci.edu!usc!howland.reston.ans.net!  
europa.eng.gtefsd.com!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: Vertical Antennas  
To: ham-equip@ucsd.edu

In article <CKz3pw.8yG@srngenprp.sr.hp.com> alanb@sr.hp.com (Alan Bloom) writes:  
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:  
>: In article <CKxpL6.LKB@srngenprp.sr.hp.com> alanb@sr.hp.com (Alan Bloom) writes:  
>: >Gary Coffman (gary@ke4zv.atl.ga.us) wrote:  
>: >: In article <CKvGDJ.GFv@srngenprp.sr.hp.com> alanb@sr.hp.com (Alan Bloom) writes:  
>: >: >Consider a vertical dipole in free space. You could insert a horizontal  
>: >: >infinite ground plane at the feedpoint without changing the radiation  
>: >: >pattern. Now you have two verticals, one pointing up, one pointing down.  
>: >: >Each vertical radiates half the power of the original dipole.  
>: >  
>: >: True because each has half the current that flows in the entire dipole.  
>: >  
>: >No, the current is the same, but the power is halved. There are (at least)  
>: >two ways to see this: 1) Only 1/2 the voltage is applied to each 1/4-wave  
>: >element. Since power = voltage times current, the power is 1/2.  
>: >2) The element is only 1/2 as long. So the same current results in  
>: >only 1/2 as much power radiated.

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>
>: Dipole split by infinite ground plane.
>
>:
>:      |
>:      |
>:  -----/\ /\ /\ \----o | o----/\ /\ /\ \-----
>:                E1 | E2
>:      |
>:      |
>:      |
>      ^^^ 36.5 ohms      ^^^ 36.5 ohms
>      ----- 73 ohms -----
>
>: If we apply drive to E1-E2, equal currents are driven into each element's
>: impedance. So the halves of the dipole have equal currents flowing in them,
>: but 180 degrees out of phase. With the infinite ground plane isolating the
>: halves, one half has half the total current flow.
>
>Let's call the voltage applied between E1 and E2 "V". Since there are
>equal and opposite voltages on the two terminals, the voltage applied
>to each is V/2.
>
>If, for example, V = 73 volts, the current in the dipole is 1 A (since
>the radiation resistance is 73 ohms.) With the ground plane, the
>impedance of each 1/4-wave element is  $73/2 = 36.5$  ohms. Since you have
>half the voltage (37.5 V) applied to each half, the current is still 1A
>in each 1/4-wave element.

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Yes, yes, I understand that, but look at what you're saying, "the current is *still* 1A in *each* 1/4-wave element." Since the dipole has *two* elements,  $1+1=2$ , it's instant flow is twice the current of a single element. (I understand what phase does to *net* current at the *feedpoint*, but that's really a different issue. When the barrier of the infinite ground plane comes into play, it *isolates* the two branches so we can treat them separately. Hence we can see the individual 1 ampere flows at the feedpoints of the two halves without phase combinations.)

Let's examine *why* an antenna radiates for a moment to see what I'm getting at here. Radiation occurs when an electric charge is accelerated. The relevant factors are the amount of electric charge, RF current, the accelerating potential, RF voltage differential over the charge path, and frequency, the rate of change of voltage along a current path. These three are all intimately related, but in most antennas, the instantaneous current is a key to predicting radiation field shape, and hence gain. The 1/4-wave monopole in the example has half the instant current of the dipole, and half the total end to end electrical potential. So crudely it would seem to have 1/4th the field strength, but it's length is 1/2 as great (frequency

effect) so the accelerating gradient is the same. That leaves the \*signs\* of the current flows that make the field of a free space dipole. These vector sum to the same field strength as the monopole over an infinite ground plane. The dipole's currents generate fields which vector sum in a way that makes  $1+1$  appear to equal 1. The ground plane should be seen as a \*shield\* to prevent this summing, not as a mirror.

>The resulting field is the same for the ground-plane case as for the  
>dipole in free space. It is as if the other half of the dipole were  
>still present. That's where the concept of the "image" antenna  
>extending below the ground plane comes from.

Uh huh, but an "image" antenna extending below the ground plane is not reality. It's a visualization trick that's sometimes useful, but the currents that actually flow are induced currents flowing along the surface of the conducting plane. They are \*not\* the same as the currents that would flow in an "image" antenna. They are the currents a \*field\* generated by the image antenna would induce in a perfect conductive sheet. This is important to understanding the effects of \*real\* ground planes which are neither perfectly conducting, nor infinite in extent. And is the reason \*real\*  $1/4$ -wave monopoles over \*real\* ground planes have less gain than vertical dipoles, or  $1/2$ -wave vertical monopoles.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: Fri, 11 Feb 1994 02:05:52 GMT  
From: mvb.saic.com!unogate!news.service.uci.edu!usc!sdd.hp.com!col.hp.com!  
srngenprp!alanb@network.ucsd.edu  
Subject: Vertical Antennas  
To: ham-equip@ucsd.edu

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

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: current is \*still\* 1A in \*each\*  $1/4$ -wave element." Since the dipole  
: has \*two\* elements,  $1+1=2$ , it's instant flow is twice the current  
: of a single element.

If you installed RF ammeters in each element, they would read the same no matter whether the ground plane is present or no. (Since the RF generator and both elements are in series, the current must be the same in each.) Each 1/4-wave element radiates 1/2 the total power no matter whether the ground plane is present or no.

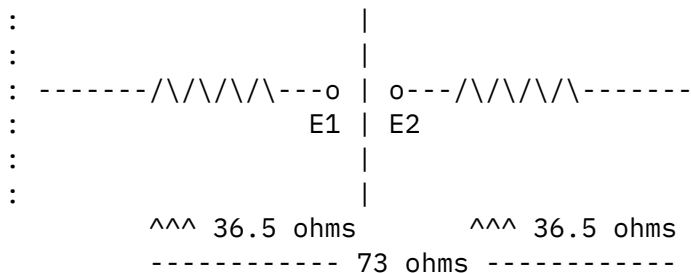
(Is anybody else still following this convoluted discussion?)

AL N1AL

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Date: Wed, 9 Feb 1994 20:03:31 GMT  
From: foxhound.dsto.gov.au!fang.dsto.gov.au!yoyo.aarnet.edu.au!  
news.adelaide.edu.au!basser.cs.su.oz.au!news.cs.su.oz.au!metro!  
dmssyd.syd.dms.CSIRO.AU!dmsperth.per.dms.@munnnari.oz.au  
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To: ham-equip@ucsd.edu

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AL N1AL

-----  
Date: Fri, 11 Feb 1994 14:58:00 GMT  
From: mvb.saic.com!unogate!news.service.uci.edu!usc!cs.utexas.edu!swrinde!sgiblab!  
pacbell.com!att-out!att-in!cbnewsm!swm@network.ucsd.edu  
Subject: Wanted: YK 88C 500Hz CW filter  
To: ham-equip@ucsd.edu

Hi ya all.

I need the 500 Hz cw filter that goes in a TS-430, 440, etc.  
Kenwood xceiver (8.83 MHz). I am not putting it into a xceiver so any  
physical condition is OK as long as it works and I can solder  
coax to the leads.

Anybody got one that I can buy?

72/73 de ND3P  
Scott McLellan  
days:610-391-2161  
eves (EST before 9 pm) 610-756-6992  
or email to me.

Thanks!!!

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End of Ham-Equip Digest V94 #32

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